

Amendments to the Claims:

Claims 1 – 9 (Canceled)

10. **(Previously amended):** A DNA fragment comprising a nucleic acid according to claim 33.
11. **(Previously amended):** A recombinant DNA molecule comprising a nucleic acid according to claim 33 under the control of a functionally linked promoter.
12. **(Previously amended):** A live recombinant carrier comprising a nucleic acid according to claim 33.
13. **(Currently amended):** A host cell comprising a recombinant DNA molecule according to claim 11 ~~nucleic acid according to claim 33~~.

Claims 14 - 24 (Canceled)

25. **(Currently amended):** A vaccine for combating *Lawsonia intracellularis* infections, comprising at least one nucleic acid according to ~~claim 33~~, claim 41 and a pharmaceutically acceptable carrier.
26. **(Previously amended):** The vaccine according to claim 25, comprising an adjuvant.
27. **(Currently amended):** The vaccine according to claim 25, comprising ~~[[an]]~~ at least one additional antigen ~~[[derived]]~~ isolated from a virus or micro-organism pathogenic to pigs or genetic information encoding said antigen.
28. **(Previously amended):** The vaccine according to claim 27, wherein said virus or micro-organism pathogenic to pigs is selected from the group consisting of Pseudorabies virus, Porcine influenza virus, Porcine parvo virus, Transmissible gastro-

enteritis virus, Rotavirus, *Escherichia coli*, *Erysipelothrix rhusiopathiae*, *Bordetella bronchiseptica*, *Salmonella choleraesuis*, *Haemophilus parasuis*, *Pasteurella multocida*, *Streptococcus suis*, *Mycoplasma hyopneumoniae*, *Brachyspira hyodysenteriae* and *Actinobacillus pleuropneumoniae*.

29. **(Currently amended):** A vaccine for combating *Lawsonia intracellularis* infections, comprising antibodies against a protein according to claim 34 ~~claim 34~~ **Claim 40**.

Claim 30 (Canceled)

31. **(Previously amended):** Diagnostic test for the detection of antibodies against *Lawsonia intracellularis*, wherein said test comprises a protein or a fragment thereof as defined in claim 34.

32. **(Previously amended):** Diagnostic test for the detection of antigenic material of *Lawsonia intracellularis*, wherein said test comprises antibodies against a protein or a fragment thereof as defined in claim 34.

33. **(Currently amended):** An isolated nucleic acid encoding an immunogenic ~~[[Lawonia]]~~ **Lawsonia** *intracellularis* protein that hybridizes under stringent conditions, **wherein the isolated nucleic acid has a mismatch of 10% or less,** with a sequence selected from the group consisting of SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 13, SEQ ID NO: 15, and SEQ ID NO: 17.

34. **(Currently amended):** An isolated *Lawsonia intracellularis* protein, or an immunogenic fragment thereof, ~~having the same immunological characteristics as an amino acid sequence~~ selected from the group consisting of SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 14, SEQ ID NO: 16, and SEQ ID NO: 18.

35. **(Previously presented):** A vaccine for combating *Lawsonia intracellularis* infection, comprising at least one protein according to claim 34, and a pharmaceutically acceptable carrier.

36. **(Previously presented):** The isolated nucleic acid of claim 33, selected from the group consisting of SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 13, SEQ ID NO: 15, and SEQ ID NO: 17.

37. **(Cancelled)**

38. **(Currently amended):** A vaccine for combating *Lawsonia intracellularis* infection, comprising ~~at least one~~ the protein according to ~~claim 37~~, claim 40 and a pharmaceutically acceptable carrier.

39. **(Currently amended):** The vaccine according to claim 38, further comprising ~~at least one protein selected from the group consisting of SEQ ID NO.: 2, the~~ isolated proteins of SEQ ID NO.: 4, SEQ ID NO.: 12 and SEQ ID NO.: 16.

40. **(New):** The isolated protein of claim 34, consisting of SEQ ID NO.: 2.

41. **(New):** The isolated nucleic acid of claim 36, consisting of SEQ ID NO.: 1.